Protocol Information

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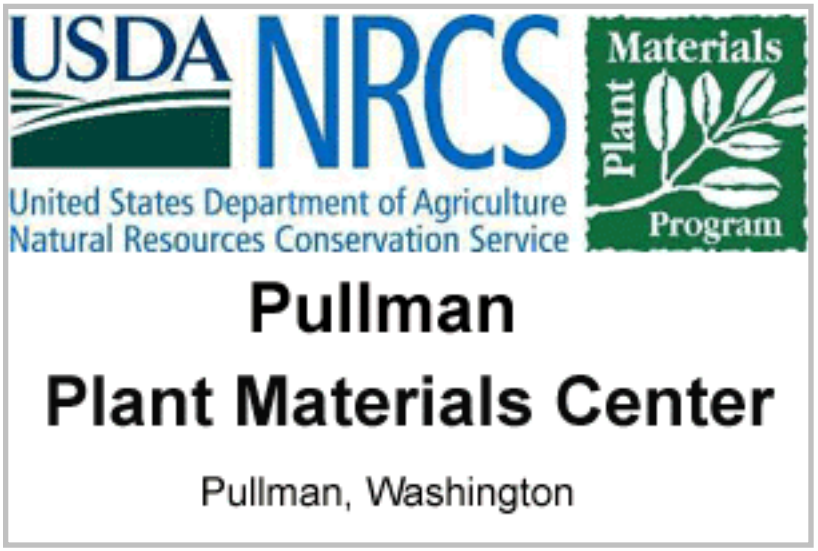

Family Scientific Name:	**Poaceae**
Family Common Name:	**Grass**
Scientific Name:	***Beckmannia syzigachne* (Steud.) Fern. ' '**
Common Synonym:	**' '**
Common Name:	**American sloughgrass**
Species Code:	**BESY**
Ecotype:	**near Tensed, Idaho**
General Distribution:	***Beckmannia syzigachne* is a circumboreal species of Europe, Asia, and North America. In North America it is found in wet meadows, along streams and lakes, and in vernal pools from Alaska south to California and east across Canada and the northern tier states but is generally absent from the southeastern US. It is an obligate wetland species (US Fish and Wildlife Service 1988).**

Known Invasiveness:	
Propagation Goal:	**Plants**
Propagation Method:	**Seed**
Product Type:	**Container (plug)**
Stock Type:	**10 cu. in.**
Time To Grow:	**4 Months**
Target Specifications:	**Tight root plug in container.**
Propagule Collection:	**Seed ripens from mid-July to early August. It is collected when the inflorescence begins to dry and the seed is in the soft to hard dough stage but before it shatters from the inflorescence. Harvested seed is stored in paper bags at room temperature until cleaned. 238,000 seeds/lb (USDA NRCS 2006).**
Propagule Processing:	**Small amounts are rubbed to free the seed, then cleaned with an air column separator. Larger amounts can probably be threshed with a hammermill, then cleaned with air screen equipment. Spikelets disarticulate below the glumes (Hitchcock 1971, Hitchcock & Cronquist 1973). The glumes should be left attached to the seed (Wright 1991). Clean seed is stored in controlled conditions at 40 degrees Fahrenheit and 40% relative humidity.**

Pre-Planting Treatments: **South Dakota seed germinates in the spring (Hoffman, et al, 1980). They found that light enhanced germination but only attained 26% germination under ambient temperatures and light.**
For northeastern Montana seed, germination is highest with alternating temperatures of 21 degrees Celsius for 9 hours and 15 degrees Celsius for 15 hours (Boe and Wynia, 1985). They found that seeds will germinate in the dark.
Alaskan seed germinates best under laboratory conditions with a 5-7 day prechill and 0.2% KNO3 followed by alternating temperatures of 15-25 degrees Celsius (VanZant 2006).

Unpublished data from trials conducted at the Pullman Plant Materials Center revealed that seed subjected to alternating day/night temperatures with no prechill germinated at 85%. Seed subjected to alternating day/night temperatures after a 7 day prechill at 38-40 degrees Fahrenheit germinated at 77%. Seed which received a 7 day prechill at the above temperature, but constant greenhouse temperatures thereafter, germinated at 62%. Seed sown directly into containers in the greenhouse without prechill or alternating temperatures germinated at 65%. 30 days of cold, moist stratification followed by constant greenhouse temperatures reduced

	germination to 12.5%.
Growing Area Preparation/ Annual Practices for Perennial Crops:	**In January seed is sown in the greenhouse in 10 cu. in. Ray Leach Super cell conetainers filled with Sunshine #1 and covered lightly. Head space of ¼ to ½ inch is maintained in conetainers to allow deep watering. A thin layer of pea gravel is applied to prevent seeds from floating. Conetainers are watered deeply. Trays are placed in the greenhouse under lights for 8 hours at 72-75 degrees Fahrenheit, then moved to a side room at 50 degrees Fahrenheit for 16 hours in the dark. Alternating temperatures are continued in this manner for 2 weeks, then the trays remain in the greenhouse at constant temperatures. Since the seed is covered, it is unlikely that light has an effect on germination.**
Establishment Phase:	**Medium is kept moist until germination occurs. Germination usually begins in 10 days and is complete in 15 days.**
Length of Establishment Phase:	**2 weeks**
Active Growth Phase:	**Plants are watered deeply every other day and fertilized once per week with a complete, water soluble fertilizer containing micro-nutrients.**
Length of Active Growth Phase:	**2-3 months**

Hardening Phase:	**Plants are moved to the cold frame in late March or early April, depending on weather conditions. They are watered every other day if the weather is cool, and every day during hot, dry spells.**
Length of Hardening Phase:	**2-4 weeks**
Harvesting, Storage and Shipping:	
Length of Storage:	
Outplanting performance on typical sites:	**Transplanting is done in early May. Survival in a planting at Rose Creek was 95%. Plants produced abundant seed the same season.**
Other Comments:	**Most authorities regard *Beckmannia syzigachne* as an annual, but the cultivar 'Egan', released by the Alaska Plant Materials Center, is a perennial (Wright 1991).** **Some of the plants at the Rose Creek site survived into a second year, suggesting that at least part of the Tensed ecotype is perennial.**
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Citation:

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